REMARKS

Status of Claims

Added claims 67, 75, 79, 84, 109 and 145 have been further amended as discussed below. Claims 154-156 are newly added.

Claims 67, 75, 79, 84, 94, 109 and 145-156 remain pending for consideration which is requested. No new matter has been added.

Rejection under 35 USC 251

Claims 67, 75, 79, 84, 94, 109 and 145-153 are rejected under 35 USC 251 as being an improper recapture of broadened claimed subject matter. For example, amended independent claim 67 has "prohibit use of the infected file based upon converting the infected file into encoded data by executing an encoding process that converts the infected file into another encoded data." In addition, the claims emphasize judging by, for example, using the phrase "scan a file stored in a storage device for infection with a virus; … quarantine the file from non-infected files on the storage device, when the file is infected …" in claim 67. And claims 75 and 79 as amended emphasize judging similar to claim 67.

Withdrawal of the recapture rejection is requested.

Rejections under 35 USC 102(e) and 103(a)

The Office Action rejected all pending claims variously over Cozza and Arnold.

Cozza discusses storing initial state information about a file in a cache of a non-volatile storage medium. Later, when the file is subsequently scanned, the current state information is compared with the initial state information and if they differ the file is then scanned for viruses. Cozza has not been shown to teach, either expressly or implicitly, or suggest converting the infected file into another encoded data, which provides a benefit of prohibiting use of an infected file.

In addition, Arnold discusses periodically monitoring a data processing system for anomalous behavior that may indicate an infection by a virus, worm, etc. and automatically scaning for undesirable software using a signature. Arnold calls for a human to create the signature by converting the binary machine code of a virus into assembler code and picking a part of the virus code as the signature. In particular, Arnold states:

A widely-used method for the detection of computer viruses

is known as a virus scanner. A virus scanner employs short strings
of bytes to identify particular viruses in executable files, boot
records, or memory. The byte strings (referred to as signatures) for
a particular virus must be chosen with care such that they always
discover the virus, if it is present, but seldom give a "false alarm",
known as a false positive. That is, the signature must be chosen so
that the byte string is one that is unlikely to be found in programs
that are normally executed on the computer. Typically, a human
expert makes this choice by converting the binary machine code of
the virus to an assembler version, analyzing the assembler code,
selecting sections of code that appear to be unusual or virus-like,
and identifying the corresponding bytes in the binary machine code
so as to produce the signature. Wildcard bytes can be included
within the signature to provide a match with any code byte
appearing in a virus. See Arnold, col. 1, lines 45-63.

Arnold discusses converting a part of the virus code to a human recognizable assembler
for producing a signature usable to detect a computer virus. Whereas in contrast to Arnold and
Cozza, either alone or as combined, claim 67 provides "converting the infected file into encoded
data by executing an encoding process that converts the infected file into another encoded data,"
which provides a benefit of prohibiting use of the infected file. For example, the specification
column 15, lines 9-11 and column 20, lines 51-61 support an embodiment.

Withdrawal of the rejections and allowance of the claims is requested.

New Claims 154-156:

New independent claims 154 and 155 also do not recapture, because, for example, they
recite "prohibit."

In addition, new claim 154 patentably distinguishes over Arnold and Cozza by having
"encoding the virus-infected file."

In addition, new claim 155 patentably distinguishes over Arnold and Cozza by having
"converting the virus-infected file into encoded data."

New dependent claim 156 inherits the recitations of base claim 155.

There being no further outstanding objections or rejections, it is submitted that the
application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is
requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,
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/Mehdi D. Sheikerz/

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